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Leptolycini of Puerto Rico (Coleoptera: Lycidae)

Leptolycini Пуэрто-Рико (Coleoptera: Lycidae)

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КЛЮЧЕВЫЕ СЛОВА: Coleoptera, Lycidae, новые рода, новые виды, таксономия, Неотропика.

ABSTRACT. Two new lycid genera, *Tainopteron* **gen.n.** and *Cessator* **gen.n.**, and four new species, *Leptolycus* (s.str.) *albicauda*, *Leptolycus* (*Baholycus*) *puellus*, *Tainopteron milleri* and *Cessator luquillonis* **spp.n.**, are described from Puerto Rico. The subgenus *Leptolycus* (*Baholycus*) Bocák, 2001 is reported from Puerto Rico for the first time. *Leptolycus heterocornis* var. *flavicollis* Leng et Mutchler, 1922 **syn.n.**, is synonymized with *L. heterocornis* Leng et Mutchler, 1922. A check-list of Leptolycini of Puerto Rico is provided, as well as identification keys to the genera and species of the tribe registered for the island.

РЕЗЮМЕ. С Пуэрто-Рико описывается два новых рода краснокрылов, *Tainopteron* **gen.n.** и *Cessator* **gen.n.**, и четыре новых вида, *Leptolycus* (s.str.) *albicauda*, *Leptolycus* (*Baholycus*) *puellus*, *Tainopteron milleri* и *Cessator luquillonis* **spp.n.** Подрод *Leptolycus* (*Baholycus*) Bocák, 2001 впервые указывается для Пуэрто-Рико. *Leptolycus heterocornis* var. *flavicollis* Leng et Mutchler, 1922 **syn.n.**, сводится в синонимы к *L. heterocornis* Leng et Mutchler, 1922. Приводится список Leptolycini Пуэрто-Рико, а также определительные таблицы для зарегистрированных на острове родов и видов трибы.

Introduction

The fauna of Leptolycini of Puerto Rico, the easternmost of the Greater Antillean islands, is very peculiar, on the one hand, and conspicuously underexplored, on the other. The first lycid found on Puerto Rico, *Leptolycus heterocornis* Leng et Mutchler, 1922 described in a new genus and placed in a tribe of its own, Leptolycini [Leng & Mutchler, 1922], still remains the only leptolycine species registered for the island.

Although Miller in his PhD dissertation [1991] expressed the intention to revise *Leptolycus* and related genera, such revision has not yet appeared. Believing that the years that have passed (nearly 20) by far exceed the time necessary to prepare a publication and as the material from this island provides new and important clues to the understanding of morphology, biogeography and phylogeny of the family, I find it inappropriate to further postpone publishing on its lycid fauna.

Therefore, presented below are descriptions of the new species and genera from Puerto Rico and a redescription of *Leptolycus*. To acknowledge Miller's intended contribution, one of the new species is named after him.

The following abbreviations are used in this paper:
AMNH — American Museum of Natural History, New York;
ICM — Insect Center, Moscow;
KMC — K. Matsuda collection, Osaka;
ZMMU — Zoological Museum of Moscow University.

Material and Methods

The material studied was glued on cardboard triangles. For more detailed examination some specimens were relaxed in water, then, for approximately 24 hours, in 10% KOH at room temperature. Certain KOH treated parts of the body, including the aedeagi and ultimate abdominal segments, were placed in microvials with glycerin.

MSP–1 zoom stereoscopic dissecting microscope with ×8–80 magnification range and Micromed–2/3–20 zoom stereoscopic light microscope with ×100–400 magnification range were used.

Taxonomy

KEY TO THE GENERA OF LEPTOLYCINI FROM PUERTO RICO (MALES)

1. Folded wings fully covered by elytra (Fig. 3). Antennomere 3 long (Figs 3, 32). Mesoventrite medially divided (Fig. 35) .... *Cessator* **gen.n.**
— Folded wings exceed elytra by ca. one fourth (Figs 1–2). Antennomere 3 short (Figs 1–2, 7, 20, 25). Mesoventrite medially undivided (Fig. 8) 2
2. Head elongate (Figs 4–5). Pronotum constricted near anterior angles, often elongate (Figs 1, 8, 18, 21). Proster-

num long (Figs 8, 19). Sternite 9 with long spiculum gastrale (Fig. 15). Aedeagus without parameres (Figs 16–17, 22–23) .... *Leptolycus* Leng et Mutchler

— Head square, not elongate. Pronotum not constricted near anterior angles, conspicuously transverse (Fig. 2). Prosternum short (Fig. 26). Sternite 9 widened proximally, spiculum gastrale short (Fig. 29). Aedeagus with parameres (Figs 30–31) .... *Tainopteron* **gen.n.**

LEPTOLYCINI Leng et Mutchler, 1922

Type genus: *Leptolycus* Leng et Mutchler, 1922, by original monotypy.

Leptolycus Leng et Mutchler, 1922

Leptolycus s.str. Leng et Mutchler, 1922

Leptolycus Leng et Mutchler, 1922: 430.

Type species: *Leptolycus heterocornis* Leng et Mutchler, 1922, by original monotypy.

REDESCRIPTION. **Adult male**. Alate, slender, elongate, long-legged (Fig. 1). Head elongate, almost parallel-sided behind eyes; cuticle in posterior half alveolate (Figs 4–5). Fastigium strongly acute. Tentorium represented by small posterior pits (Fig. 5). Eyes moderately large, spherical. Labrum transverse, lightly sclerotized, lying inside epistoma (Fig. 5). Mandibles vestigial. Maxillary palps slender, 4-segmented, with ultimate palpomere pointed distally (Fig. 5). Labium consisting of non-paired prementum and a pair of one-segmented sensilla-like palps subsided by two setae each (Fig. 6). Gula absent. Antennal prominence conspicuous, antennal sockets separated by minute lamina. Antenna 11-segmented, relatively long, with antennomeres 4–6 almost filiform, 7–11 flattened, antennomeres 2 and 3 small, combined much shorter than antennomere 4; antennomeres 4–11 with irregular margins and long scarce bristling setae (Fig. 7).

Pronotum 5 to 8 times shorter than elytra, constricted before front angles and angularly produced anteriorly, with median suture; posterior angles strongly produced laterally (Fig. 8). Prosternum relatively long, diamond-shaped or triangular (Figs 8, 19). Thoracic spiracles elongate, well-sclerotized, projecting beyond coxae and pronotum, with additional proximal sclerites (Fig. 8). Mesoventrite transverse, entire, connected to mesepisternum directly; mesepimeron conspicuously shorter and narrower than mesepisternum (Fig. 8). Mesonotum with scutellum attaining to anterior margin, mesoscutal halves not divided; scutellum with inconspicuous postnotal plate (Fig. 9). Elytra long, narrow, separately abruptly narrowing in distal half, not covering ca. distal fourth of wings, with two primary costae (2nd and 4th); interstices finely and densely granulose; short elytral pubescence decumbent (Fig. 1). Metanotum almost square, widening anteriorly, with straight scuto-scutellar ridge forming no loop and considerably longer than allocrista; prescutum with median suture; intrascutal suture small, emerging at distal third of scutum; scutellum incised posteriorly, entire, without median suture; postnotal plate short, with median suture in posterior process (Fig. 10). Metaventrite elongate, with strongly blunt and widely rounded posterior angles; discrimen (metasternal suture) complete, attaining to mesosternum (Fig. 8). Metendosternite small, simple, with inconspicuous arms and without transverse suture (Fig. 11). Metathoracic wing elongate, with long anal cell long; wedge cell absent; Cu veins absent (Fig. 12).

Protrochantins slightly more prominent than mesotrochantins. Pro- and mesocoxae elongate; metacoxae distinctly separated from each other (Fig. 8). Legs very long and narrow; trochanters very narrow, cylindrical, noticeably longer than coxae, connected to femora distally; femurs and tibiae straight and narrow, tibial spurs absent; tarsomeres 1–4 narrow, without plantar pads; all claws simple (Fig. 8). Abdominal spiracles globular, pumkin-shaped (Fig. 13), located dorsally at the edge of sternite (Fig. 10). Paraproct (tergite 9) medially undivided and fused with proctiger (tergite 10), proctiger laterally subdivided into tergite 10 and tergite 11 (Fig. 14); spiculum gastrale relatively long and narrow (Fig. 15).

Aedeagus symmetric, with elongate straight distally acute median lobe and undeveloped parameres; phallobase without median suture, consisting of two parts with different degree of sclerotization, strongly sclerotized paired apodemes and distal little-sclerotized connecting sclerite (Figs 16–17).

Female. Unknown, obviously paedomorphic and larviform.

BIOLOGY. *Leptolycus heterocornis* may be found in the rain forests of Puerto Rico at 800–950 m above the sea level, predominantly sitting on the lower surface of leaves of plants from 5 through 100 cm from the ground.

DIAGNOSIS. *Leptolycus* s.str. may be differentiated from other genus-group leptolycine taxa by a combination of the elongate head (Figs 4–5), short antennomeres 2 and 3 and irregular margins and scarce bristling setae of antennomeres 4–11 (Fig. 7), relatively long prosternum and pronotum (Fig. 8) and absence of pronotal papillae.

DISTRIBUTION. Apart from Puerto Rico *Leptolycus* s.str. is reported from Hispaniola [Bocák, 2001] and is likely to occur on the US Virgin Islands [according to Miller, 1991, unpublished].

Leptolycus (s.str.) *heterocornis* Leng et Mutchler, 1922
Figs 1, 4–17

Leptolycus heterocornis Leng et Mutchler, 1922: 430.

Leptolycus heterocornis var. *flavicollis* Leng et Mutchler, 1922: 431, **syn.n.**

MATERIAL: Holotype # 24525 [*Leptolycus heterocornis* Leng et Mutchler], ♂, Puerto Rico, Aibonito, 14–17.VII.1914, H.G. Barber (AMNH); Holotype # 24529 [*Leptolycus heterocornis* var. *flavicollis* Leng et Mutchler], ♂, Puerto Rico, Aibonito, VII.1914, H.G. Barber (AMNH); Puerto Rico, Hwy 120, km 14, Maricao St. For., 10.VIII.1999, C.W. O'Brien; Puerto Rico, Sierra de Luquillo, 850–900 m, 3–5.IV.2005, S. Kazantsev; Puerto Rico, Sierra de Luquillo, 850–900 m, 8.IV.2005, S. Kazantsev; Puerto Rico, Sierra de Luquillo, El-Yunque, Rd 191, km 13, 800–850 m, 15–17.I.2008, S. Kazantsev; Puerto Rico, Cordillera Central, Toro Negro, Doña Huana R.A., 800–850 m, 12–14.I.2008, S. Kazantsev; Puerto Rico, Cordillera Central, Toro Negro, Doña Huana R.A., ca. 950 m, 13–14.I.2008, S. Kazantsev; Puerto Rico, Sierra de Luquillo, 850–900 m, 21–23.IV.2009, S. Kazantsev (ICM, KMC, ZMMU).

DIAGNOSIS. *L.* (s.str.) *heterocornis* is easily distinguished from *L.* (s.str.) *albicauda* **sp.n.** by the longer pronotum and black terminal abdominal segments.

VARIABILITY. Pro- and mesothorax, as well as pro- and mesocoxae and pro- and mesotrochanters may vary in coloration from yellow ochre to black. A specimen with yellow ochre pronotum was designated Holotype of *L. heterocornis* var. *flavicollis* Leng et Mutchler, 1922, which is hereby put in synonymy of *L. heterocornis* Leng et Mutchler, 1922.

Leptolycus s.str. *albicauda* Kazantsev **sp.n.**
Figs 18–19

MATERIAL: Holotype, ♂, Puerto Rico, Sierra de Luquillo, El-Yunque, Rd 191, km 13, 800–850 m, 15–17.I.2008, S. Kazantsev (ICM).

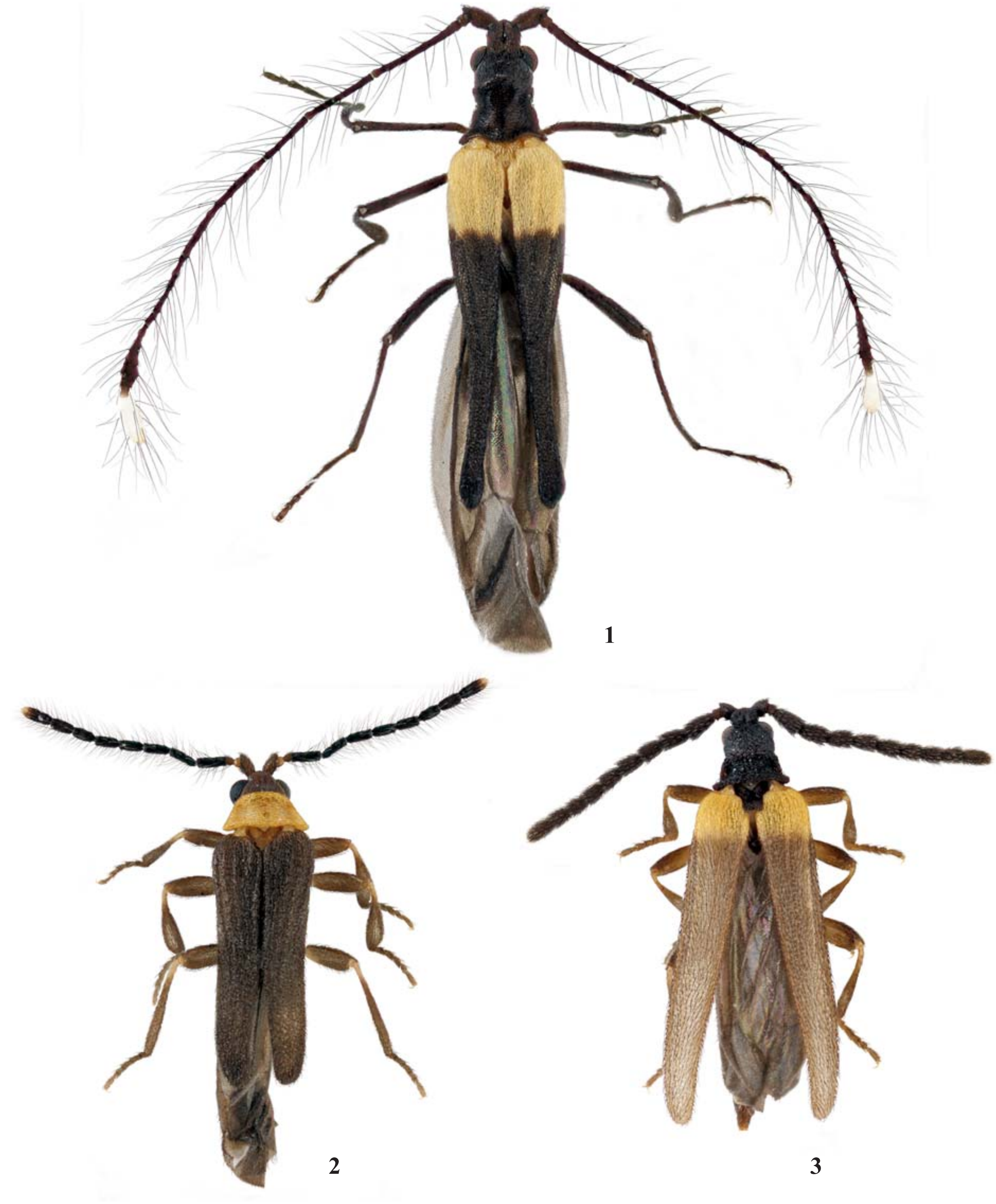
DESCRIPTION. **Male**. Black; pro- and mesothorax, elytral proximal eighth and pro- and mesocoxae whitish yellow; antennomere 11, metatrochanters, metafemora proximally and genital capsule (sternite 9 and tergites 9 and 10) white.

Eyes relatively large, interocular distance ca. 1.5 times greater than eye radius. Antennae attaining to elytral apices, with antennomere 3 about as wide as long, slightly shorter than antennomere 2 and ca. 10 times shorter than antennomere 4.

Pronotum transverse, ca. 1.4 times as wide as long, bisinuate basally, triangularly produced forward anteriorly, with prominent bulging anterior and acute posterior angles (Fig. 18). Prosternum triangular (Fig. 19). Scutellum with small transverse bifurcate postnotal plate.

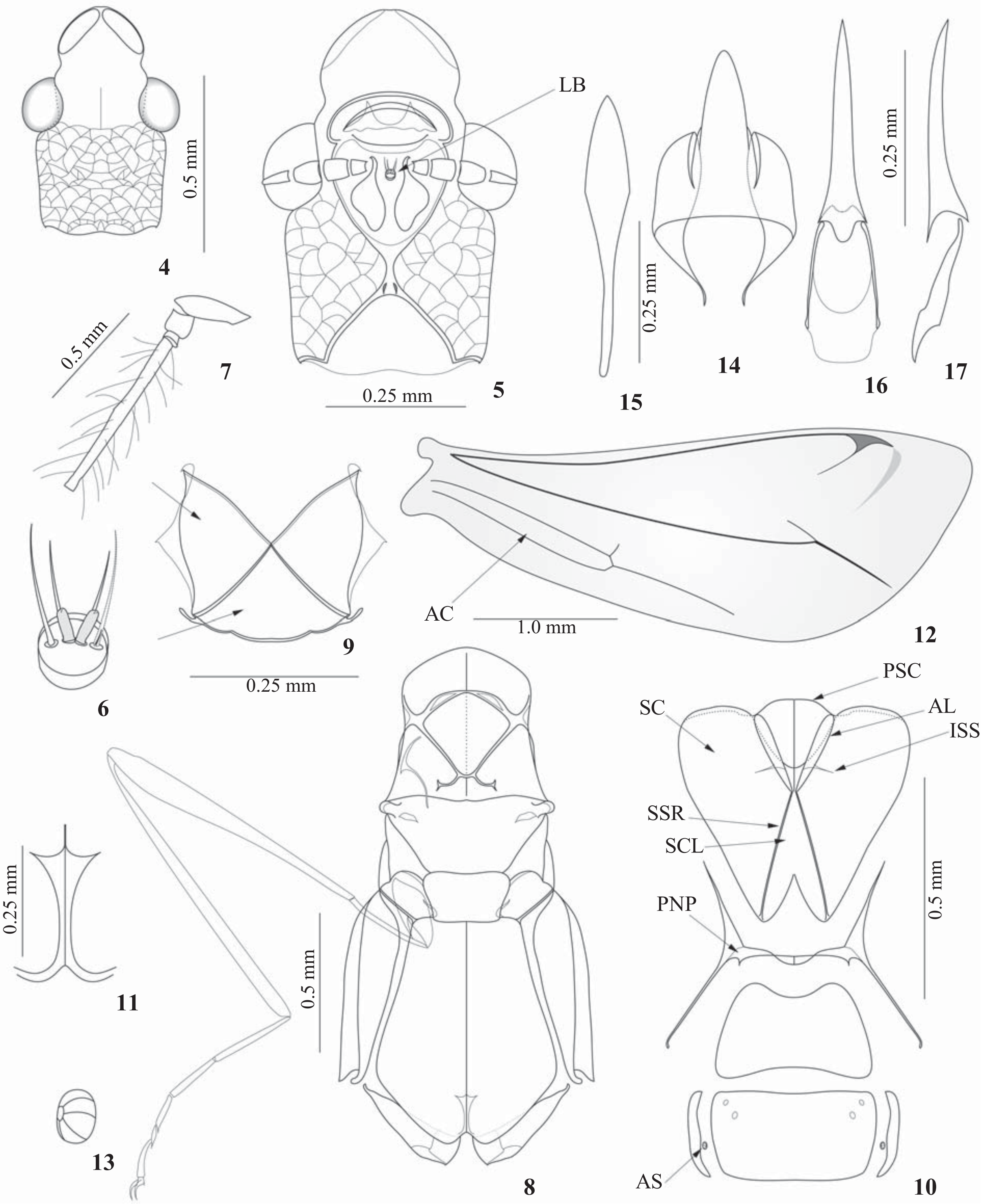
Elytra long, 3.4 times as long as wide at humeri, strongly narrowed and conspicuously divergent distally.

Female. Unknown.



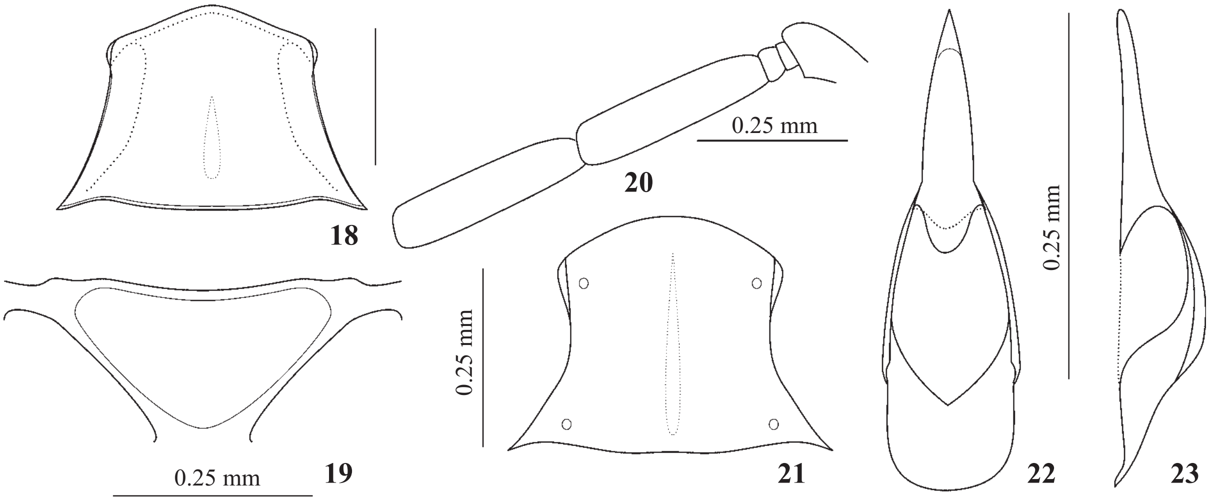
Figs 1–3. General view of Leptolycini, males: 1 — *Leptolycus heterocornis*; 2 — *Tainopteron milleri* **gen.n.**, **sp.n.**; 3 — *Cessator luquillonis* **gen.n.**, **sp.n.**; 2–3 — holotypes.

Рис. 1–3. Общий вид Leptolycini, самцы: 1 — *Leptolycus heterocornis*; 2 — *Tainopteron milleri* **gen.n.**, **sp.n.**; 3 — *Cessator luquillonis* **gen.n.**, **sp.n.;** 2–3 — голотипы.



Figs 4–17. Details of *Leptolycus heterocornis*, male: 4–5 — head; 6 — labium; 7 — antennomeres 1–4; 8 — thorax; 9 — mesonotum; 10 — metanotum; 11 — metendosternite; 12 — metathoracic wing; 13 — abdominal spiracle; 14 — tergites 9 and 10; 15 — sternite 9; 16–17 — aedeagus; 4, 6, 8, 9, 15, 16 — ventral view; 5, 7, 10, 12–14 — dorsal view; 17 — lateral view. AC — anal cell; AL — allocrista; AS — abdominal spiracle; ISS — intrascutal suture; LB — labium; PNP — postnotal plate; PSC — prescutum; SC — scutum; SCL — scutellum; SSR — scuto-scutellar ridge.

Рис. 4–17. Детали строения *Leptolycus heterocornis*, самец: 4–5 — голова; 6 — нижняя губа; 7 — антенномеры 1–4; 8 — торакс; 9 — мезонотум; 10 — метанотум; 11 — метэндостернит; 12 — заднее крыло; 13 — брюшное дыхальце; 14 — тергиты 9 и 10; 15 — стернит 9; 16–17 — эдеагус; 4, 6, 8, 9, 15, 16 — снизу; 5, 7, 10, 12–14 — сверху; 17 — сбоку. AC — анальная ячейка; AL — аллокриста; AS — брюшное дыхальце; ISS — интраскутальный шов; LB — нижняя губа; PNP — постнотальная пластина; PSC — прескутум; SC — скутум; SCL — скутеллум; SSR — скуто-скутеллярный шов.



Figs 18–23. Details of *Leptolycus* spp.: 18–19 — *L.* (s.str.) *albicauda* **sp.n.**, holotype male; 20–23 — *L.* (*Baholycus*) *puellus* **sp.n.**, holotype male; 18, 21 — pronotum; 19 — prosternum; 20 — antennomeres 1–5; 22–23 — aedeagus; 19, 22 — ventral view; 18, 20, 21 — dorsal view; 23 — lateral view.

Рис. 18–23. Детали строения *Leptolycus* spp.: 18–19 — *L.* (s.str.) *albicauda* **sp.n.**, голотип, самец; 20–23 — *L.* (*Baholycus*) *puellus* **sp.n.**, голотип, самец; 18, 21 — переднеспинка; 19 — простернум; 20 — антенномеры 1–5; 22–23 — эдеагус; 19, 22 — снизу; 18, 20, 21 — сверху; 23 — сбоку.

Length: 3.4 mm. Width (humerally): 0.8 mm.

ETYMOLOGY. The name is derived from the Latin for “white” and “tail”, alluding to the coloration of the terminal abdominal segments of the new species.

DIAGNOSIS. *L. albicauda* **sp.n.** is easily distinguishable from *L. heterocornis* by the whitish-yellow elytral proximal eighth, white terminal abdominal segments and metatrochanters, transverse pronotum, with entire lateral margin (Fig. 18) and triangular prosternum (Fig. 19).

Leptolycus (*Baholycus*) Bocák, 2001

Leptolycus subgen. *Baholycus* Bocák, 2001: 205.

Type species: *Leptolycus* (*Baholycus*) *barahonensis* Bocák, 2001.

DIAGNOSIS. *Baholycus* may be differentiated from the nominative subgenus by the regular margins of antennomeres of flagellum and their short dense decumbent pubescence (Fig. 20), as well as by the four minute papillae at the corners of pronotum (Fig. 21).

DISTRIBUTION. This is the first Puerto Rican record of *Leptolycus* (*Baholycus*), which was previously known only from Hispaniola [Bocák, 2001].

Leptolycus (*Baholycus*) *puellus* Kazantsev **sp.n.**
Figs 20–23

MATERIAL: Holotype, ♂, Puerto Rico, Cordillera Central, Toro Negro, Doña Huana R.A., 800–850 m, 12–14.I.2008, S. Kazantsev; paratypes: 2 ♂♂, Puerto Rico, Sierra de Luquillo, 600 m, 3–5.IV.2005, S. Kazantsev (ICM); ♂, Puerto Rico, Cordillera Central, Toro Negro, Doña Huana R.A., ca. 950 m, 13–14.I.2008, S. Kazantsev (ICM).

DESCRIPTION. **Male**. Black; elytral proximal fifth yellow ochre; antennomere 11, except at distal fourth, white.

Eyes relatively small, interocular distance ca. 2.5 times greater than eye radius. Antennae almost attaining to elytral apices, with antennomere 3 wider than long, about as long as antennomere 2 and ca. 10 times shorter than antennomere 4 (Fig. 20).

Pronotum transverse, ca. 1.3 times wider than long, slightly bisinuate basally, produced forward anteriorly, with prominent anterior and acute posterior angles (Fig. 21). Scutellum slightly emarginate at apex.

Elytra long, 3 times as long as wide at humeri.

Aedeagus with elongate pointed distally median lobe and elongate, apparently bipartite phallobase and absent parameres (Figs 22–23).

Female. Unknown.

Length: 2.4–2.7 mm. Width (humerally): 0.6–0.7 mm.

ETYMOLOGY. The name is derived from the Latin for “little boy”, alluding to the size of the insect and the gender of the holotype and all of the paratypes.

DIAGNOSIS. *L. puellus* **sp.n.** is distinguishable from the congenerics from Puerto-Rico by the subgeneric characters; it easily differs from the *Baholycus* species from Hispaniola by the simple non-flabellate antennae (Fig. 20).

VARIABILITY. Paratypes from Sierra de Luquillo differ by the whitish-yellow coxae and tibiae.

The *Leptolycus* species of Puerto Rico may be distinguished by the key that follows.

KEY TO *LEPTOLYCUS* SPECIES (MALES)

1. Antennomeres 4–11 with irregular margins and scarce bristling setae (Figs 1, 7). Pronotum without papillae (*Leptolycus* s.str.) 2
— Antennomeres 4–11 with regular margins and short dense decumbent pubescence (Fig. 20). Pronotum with four minute papillae at corners (Fig. 21) .... *L.* (*Baholycus*) *puellus* **sp.n.**
2. Pronotum transverse (Fig. 18), pronotal lateral margins entire. Prosternum shorter, triangular (Fig. 19). Terminal abdominal segments and metatrochanters white; elytral proximal eighth whitish-yellow .... *L.* (s.str.) *albicauda* **sp.n.**
— Pronotum elongate, pronotal lateral margins obsolete anteriorly. Prosternum longer, diamond-shaped (Fig. 8). Terminal abdominal segments black; metatrochanters black or yellow; elytral proximal fourth yellow ochre .... *L.* (s.str.) *heterocornis* Leng et Mutchler

Tainopteron Kazantsev **gen.n.**

Type species: *Tainopteron milleri* sp.n.

DESCRIPTION. **Adult male**. Alate, slender, elongate (Fig. 2). Head square, not narrowed behind eyes. Fastigium acute, ca. 45 degrees. Eyes moderately large, spherical. Labrum transverse, lightly sclerotized, lying inside epistoma. Mandibles vestigial. Maxillary palps slender, 4-segmented, with ultimate palpomere pointed distally. Labium consisting of non-paired prementum and a pair of one-segmented sensilla-like palps (Fig. 24). Gula absent. Antennal prominence relatively inconspicuous, antennal sockets separated by minute lamina. Antenna 11-segmented, moderately long, filiform; antennomeres 2 and 3 short, subequal in length, together much shorter than antennomere 4; pubescence on antennomeres 4–11 represented by long scarce bristling setae (Fig. 25).

Pronotum small, ca. 7.5 times shorter than elytra, with obscure median impression in posterior two thirds; posterior angles produced laterally (Fig. 2). Prosternum short, V-shaped (Fig. 26). Thoracic spiracles elongate, small, not projecting beyond coxae. Mesoventrite transverse, not divided by median suture. Mesonotum with scutellum not attaining to anterior margin, scutal halves not divided; scutellum with minute postnotal projections (Fig. 27). Elytra long, narrowing distally, dehiscent in distal third, not covering ca. distal fourth of wings, with two fully developed primary costae (2 and 4) and costa 1 present in proximal third; costa 3 noticeable in humeral area (Fig. 2); interstices irregularly areolate; short elytral pubescence uniform. Metanotum elongate, with straight scuto-scutellar ridge subequal in length to allocrista; prescutum with median suture; intrascutal suture small, emerging at distal third of scutum; scutellum without median suture; postnotal plate short, without median suture. Metaventrite elongate, with acute, slightly rounded posterior angles; discrimen complete, attaining to mesosternum. Metathoracic wing with fringe of short hairs, sparser and more decumbent at anterior, denser and straighter at posterior margins; anal cell not closed; wedge cell absent, Cu veins vestigial.

Protrochantins slightly more prominent than mesotrochantins. Pro- and mesocoxae elongate; metacoxae approximate. Legs slender; trochanters elongate, but more than 2.5 times shorter than femurs, cylindrical, connected to femora distally; femurs and tibiae flattened, tibiae slightly curved and strongly widened distally, tibial spurs absent; tarsomeres 1–4 narrow, without plantar pads; all claws simple. Abdominal spiracles absent; tergite subdivided near lateral edge, looking tripartite. Paraproct not divided by median suture, proctiger subdivided into tergite 10 and tergite 11 (Fig. 28); sternite 9 dilated proximally, with short spiculum gastrale (Fig. 29).

Aedeagus symmetric, with short roundish parameres and elongate narrow median lobe; parameral apices acute; phallobase without median suture (Figs 30–31).

Female. Unknown, obviously paedomorphic and larviform.

BIOLOGY. The small type series of *Tainopteron milleri* **sp.n.** was collected at 850–900 m above sea level in a rain forest by sweeping low strata foliage and grass.

ETYMOLOGY. The name of the genus is derived from "Taíno", the indigenous people of the Greater Antilles and the Greek for "wing". Gender neutral.

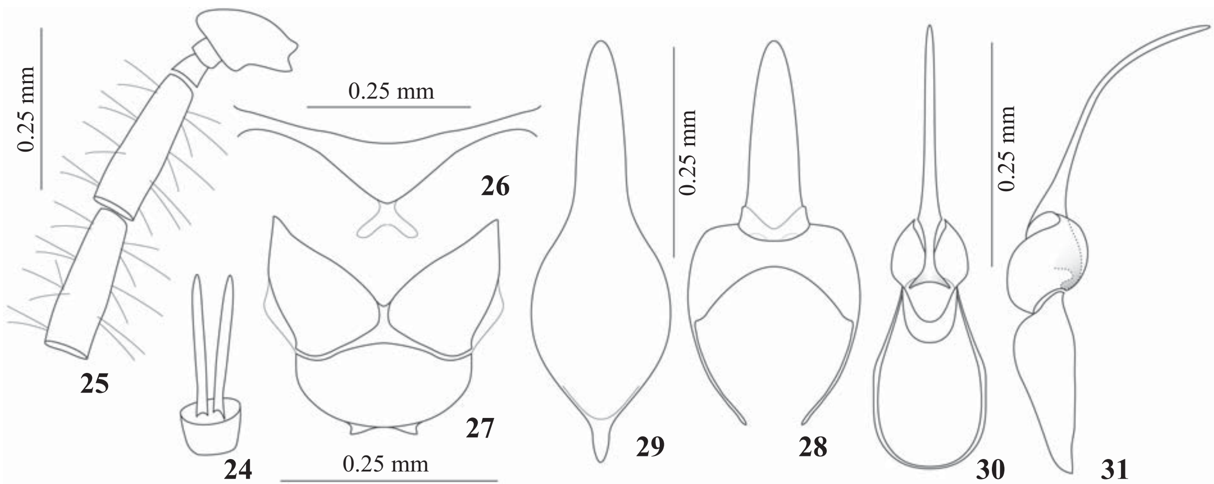
DIAGNOSIS. *Tainopteron* **gen.n.** is readily differentiated from *Leptolycus* by the square head, short pronotum (Fig. 2), short prosternum (Fig. 26) and widened proximally sternite 9 with short spiculum gastrale (Fig. 29), as well as by the conspicuous parameres of the aedeagus (Figs 30–31).

Tainopteron milleri Kazantsev **sp.n.**
Figs 2, 24–31

MATERIAL: Holotype, ♂, Puerto Rico, Sierra de Luquillo, 850–900 m, 8.IV.2005, S. Kazantsev (ICM); paratype, ♂, same label (ICM).

DESCRIPTION. **Male**. Dark brown; prothorax yellow; antennomere 2, antennomere 11 distally, procoxae, trochanters, and femurs basally, yellowish brown.

Eyes relatively small, interocular distance ca. 2.5 times greater than eye radius. Antennae filiform, attaining to elytral two thirds, with antennomere 3 as wide as long, subequal in size to antennomere 2 and ca. 5 times shorter than antennomere 4, antennomeres 4–11 with long sparse bristling hairs (Fig. 25).



Figs 24–31. Details of *Tainopteron milleri* **gen.n.**, **sp.n.**, holotype male: 24 — labium; 25 — antennomeres 1–5; 26 — prosternum; 27 — mesonotum; 28 — tergites 9 and 10; 29 — sternite 9; 30–31 — aedeagus; 24, 26, 29, 30 — ventral view; 25, 27, 28 — dorsal view; 31 — lateral view.

Рис. 24–31. Детали строения *Tainopteron milleri* **gen.n.**, **sp.n.**, голотип, самец: 24 — нижняя губа; 25 — антенномеры 1–5; 26 — простернум; 27 — мезонотум; 28 — тергиты 9 и 10; 29 — стернит 9; 30–31 — эдеагус; 24, 26, 29, 30 — снизу; 25, 27, 28 — сверху; 31 — сбоку.

Pronotum transverse, ca. 2.2 times as wide as long, trapezoidal, bisinuate basally, with straight anterior and lateral margins and acute posterior angles (Fig. 2). Scutellum transverse, feebly emarginate at apex (Fig. 27).

Elytra moderately long, 2.6 times as long as wide at humeri, with prominent flattened humeri.

Aedeagus with slightly bent median lobe; parameres 3 times shorter than phallobase and about 4 times shorter than median lobe (Figs 30–31).

Female. Unknown.

Length: 1.9–2.0 mm. Width (humerally): 0.55–0.6 mm.

ETYMOLOGY. The species is named after Dr. R. Miller (Bozeman, Montana), my US colleague, a well-known Lycidae specialist.

DIAGNOSIS. *T. milleri* **sp.n.** is easily distinguishable from other leptolycines from Puerto Rico by the generic characters.

Cessator Kazantsev **gen.n.**

Type species: *Cessator luquillonis* sp.n.

DESCRIPTION. **Adult male**. Alate, slender, elongate (Fig. 3). Head elongate, not narrowed behind eyes; cuticle alveolate (Fig. 32). Fastigium acute, ca. 45 degrees. Tentorium represented by posterior pits. Eyes relatively small, spherical. Labrum transverse, lying inside epistoma (Fig. 32). Mandibles vestigial. Maxillary palps slender, 4-segmented, with ultimate palpomere pointed distally. Labium consisting of non-paired prementum and a pair of one-segmented sensilla-like palps subsided by two setae each, one seta approaching in appearance to palps (Fig. 33). Gula absent. Antennal prominence conspicuous, antennal sockets separated by minute lamina. Antenna 11-segmented, relatively long, attaining to elytral middle, with antennomeres 3–11 filiform; antennomere 3 long, several times longer than antennomere 2; pubescence on antennomeres 3–11 short and erect (Fig. 32).

Pronotum small and short, ca. 12 times shorter than elytra, without median suture, with inconspicuous median furrow in posterior third; posterior angles produced laterally (Fig. 3). Prosternum relatively short, falcon-shaped (Fig. 34). Thoracic spiracles not projecting beyond coxae. Mesoventrite transverse, with complete median suture; mesepimeron conspicuously shorter than mesepisternum (Fig. 35). Mesonotum with scutellum attaining to anterior margin, mesoscutal halves not divided; postnotal plate of scutellum represented by triangular lateral apodemes (Fig. 36). Elytra long, narrowing distally, dehiscent in distal third, completely covering wings, with two fully developed primary costae (2 and 4) and costa 1 noticeable in proximal fifth (Fig. 3); interstices finely and densely reticulate; short decumbent pubescence uniform. Metanotum elongate, with slightly convex scutoscutellar ridge forming no loop and subequal in length to allocrista; prescutum with median suture; intrascutal suture small, emerging at distal fourth of scutum; scutellum with median suture in anterior third; postnotal plate short, without median suture (Fig. 37). Metaventrite elongate, with blunt, widely rounded posterior angles; discrimen not complete, attaining to distal three fourths, minutely bifurcate at apex (Fig. 35). Metendosternite relatively large, only ca. 4 times shorter than metaventrite, simple, without median or transverse sutures and lateral arms (Fig. 38). Metathoracic wing with fringe of hairs, longer and sparser at anterior, shorter and denser at posterior margins; anal cell not closed; wedge cell absent, Cu veins present, subconnected to M; cu-a brace inconspicuous (Fig. 39).

Protrochantins slightly more prominent than mesotrochantins. Pro- and mesocoxae elongate; metacoxae distinctly separated (Fig. 35). Legs slender; trochanters elongate, but more than 3 times shorter than tibia, cylindrical, connected to femora distally; femurs and tibiae flattened and straight, tibial spurs absent; tarsomeres 1–4 narrow, parallel-sided, without plantar pads; all claws simple (Fig. 35). Abdominal spiracles minute, located dorsally in membrane between sternite and tergite. Paraproct undivided and medially fused with proctiger (Fig. 40); spiculum gastrale long (Fig. 41).

Aedeagus symmetric, with elongate phallobase and short median lobe; median lobe several times shorter than phallobase; parameres absent, possibly fused with phallobase; phallobase without median suture (Figs 42–43).

Female. Unknown, obviously paedomorphic and larviform.

BIOLOGY. The type series of *Cessator luquillonis* **sp.n.** was collected at 800–950 m above sea level in a rain forest by sweeping low strata foliage and grass.

ETYMOLOGY. The name of the genus is derived from the Latin for "one who loiters", alluding to the typical behaviour of these net-winged beetles who typically bide their time on low-strata foliage actually motionless, only occasionally moving their antennae. Gender masculine.

DIAGNOSIS. *Cessator* **gen.n.** may be differentiated from the other leptolycine genera by a combination of the 11–segmented and filiform antennae with elongate antennomere 3 (Fig. 32), relatively short pronotum and prosternum (Fig. 34), divided mesoventrite and incomplete discrimen (Fig. 35), elytra completely covering folded wing (Fig. 3) with absent anal cell (Fig. 39), and long phallobase, short median lobe and absent parameres of the aedeagus (Figs 42–43).

Cessator luquillonis Kazantsev **sp.n.**
Figs 3, 32–43

MATERIAL: Holotype, ♂, Puerto Rico, Sierra de Luquillo, 850–900 m, 8.IV.2005, S. Kazantsev (ICM); paratypes: 5 ♂♂, same label; 3 ♂♂, Puerto Rico, Sierra de Luquillo, 850–900 m, 3–5.IV.2005, S. Kazantsev; ♂, Puerto Rico, Cordillera Central, Toro Negro, Doña Huana R.A., ca. 950 m, 13–14.I.2008, S. Kazantsev; ♂, Puerto Rico, Sierra de Luquillo, El-Yunque, Rd 191, km 13, 800–850 m, 15–17.I.2008, S. Kazantsev (ICM).

DESCRIPTION. **Male**. Dark brown; elytral proximal eighth yellow ochre; femurs basally yellow-brown.

Eyes small, interocular distance ca. 3 times greater than eye radius. Antennae attaining to elytral middle, with antennomere 3 3.5 times longer than antennomere 2 and subequal in length to antennomere 4 (Fig. 32).

Pronotum transverse, ca. 2 times wider than long, slightly bisinuate basally, almost straight anteriorly, with blunt anterior and acute posterior angles (Fig. 34). Scutellum short, parallel-sided, slightly emarginate apically (Fig. 36).

Elytra moderately long, 2.4 times as long as wide at humeri.

Aedeagus with elongate bullet-shaped median lobe with sickle-shaped dorso-distal projection; median lobe 7.2 times shorter than phallobase (Figs 42–43).

Female. Unknown.

Length: 2.7–3.2 mm. Width (humerally): 0.6–0.7 mm.

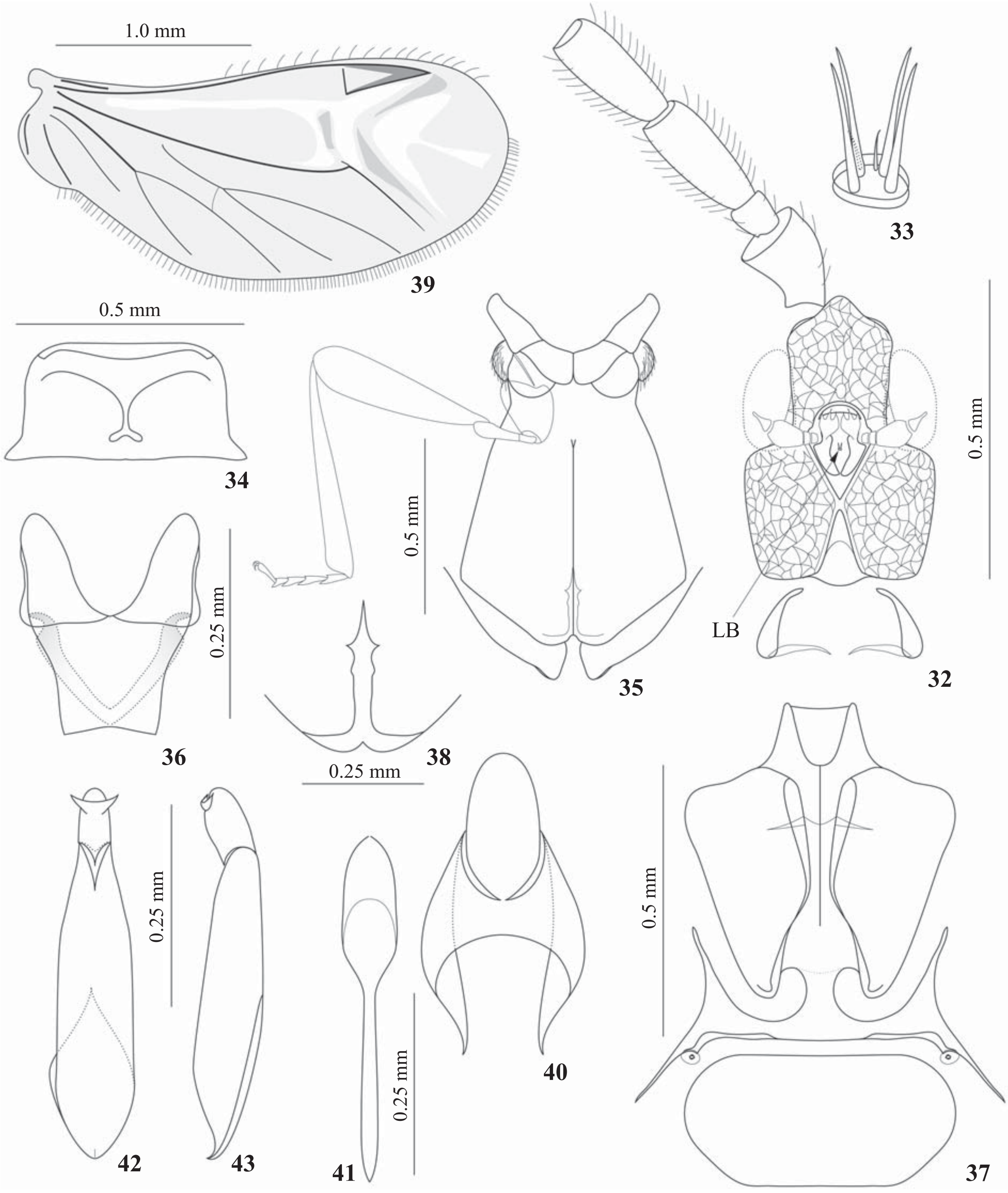
ETYMOLOGY. The name of the new species is derived from Sierra de Luquillo, locality where most of the type specimens were taken.

DIAGNOSIS. *C. luquillonis* **sp.n.** is easily distinguishable from other leptolycines from Puerto Rico by the generic characters.

VARIABILITY. In the paratype from the Central Cordillera (Toro Negro) the apical antennomere is white.

Discussion

The three Leptolycini genera of Puerto Rico, although united by minuteness of their members, show remarkable morphological diversity. They differ from each other in the structure of cuticle, shape of head, structure of antennae and their pubescence, shape of pronotum and prosternum, relative length of the discri-



Figs 32–43. Details of *Cessator luquillonis* **gen.n.**, **sp.n.**, holotype male: 32 — head with antennomeres 1–5; 33 — labium; 34 — prosternum; 35 — meso- and metaventrite with middle leg; 36 — mesonotum; 37 — metanotum; 38 — metendosternite; 39 — hind wing; 40 — tergites 9 and 10; 41 — sternite 9; 42–43 — aedeagus; 32–35, 41, 42 — ventral view; 36–40— dorsal view; 43 — lateral view.

Рис. 32–43. Детали строения *Cessator luquillonis* **gen.n.**, **sp.n.**, голотип, самец: 32 — голова с антенномерами 1–5; 33 — нижняя губа; 34 — простернум; 35 — мезо- и метавентрит со средней ногой; 36 — мезонотум; 37 — метанотум; 38 — метэндостернит; 39 — заднее крыло; 40 — тергиты 9 и 10; 41 — стернит 9; 42–43 — эдеагус; 32–35, 41, 42 — снизу; 36–40 — сверху; 43 — сбоку.

men, structure of the mesoventrite, hind wing, terminal abdominal segments, aedeagus, etc. In two genera, *Leptolycus* and *Tainopteron* **gen.n.** the elytra leave uncovered approximately one fourth of a folded wing (Figs 1–2), while in *Cessator* **gen.n.** they cover folded wings in full (Fig. 3). Of all Lycidae, the former character is shared only by *Alyculus* Kazantsev, 1999, from the Sunda Islands [Kazantsev, 2005]. The mesoventrite divided by a median suture, found in *Cessator* **gen.n.**, is also very rarely come across in the family and resembles that only of the mediterranean *Thilmanus* Gemminger, 1869 [Kazantsev, 2005]. At the same time, *Thilmanus* is the closest match of *Cessator* **gen.n.** in terms of the structure of its metendosternite as well [Kazantsev, 2005]. Therefore, although *Leptolycus*, *Cessator* **gen.n.** and *Tainopteron* **gen.n.** are tentatively classified in a single higher-level taxon, it is not unlikely that their placement may change after a comprehensive phylogenetic analysis, which is beyond the scope of the present paper.

Checklist of Leptolycini of Puerto Rico

LEPTOLYCINI Leng et Mutchler, 1922

Leptolycus Leng et Mutchler, 1922

Leptolycus (*Leptolycus*) Leng et Mutchler, 1922.
Leptolycus Leng et Mutchler, 1922: 430.
Type species: *Leptolycus heterocornis* Leng et Mutchler, 1922.
albicauda Kazantsev, 2009, **sp.n.**
heterocornis Leng et Mutchler, 1922.
Leptolycus heterocornis Leng et Mutchler, 1922: 431.
Leptolycus heterocornis var. *flavicollis* Leng et Mutchler, 1922:432, **syn.n.**

Leptolycus (*Baholycus*) Bocák, 2001

Leptolycus subgen. *Baholycus* Bocák, 2001: 205.
Type species: *Leptolycus* (*Baholycus*) *barahonensis* Bocák, 2001.
puellus Kazantsev, 2009, **sp.n.**

Tainopteron Kazantsev, 2009, **gen.n.**

Type species: *Tainopteron milleri* Kazantsev, 2009, **sp.n.**
milleri Kazantsev, 2009, **sp.n.**

Cessator Kazantsev, 2009, **gen.n.**

Type species: *Cessator luquillonis* Kazantsev, 2009, **sp.n.**
luquillonis Kazantsev, 2009, **sp.n.**

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